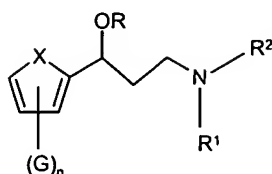


IN THE CLAIMS

1. (original): A process for the preparation of a compound of Formula (1):



Formula (1)

wherein:

X is S, O or NR³, wherein R³ is H or an organic group;

R is H or an organic group;

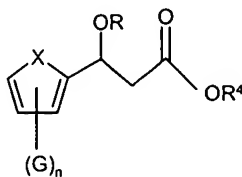
R¹ and R² each independently are H, optionally substituted alkyl or optionally substituted aryl;

G is a substituent; and

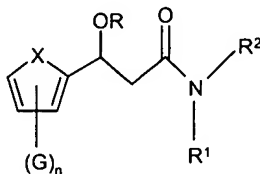
n is 0 to 3;

which comprises the steps:

(a) reacting a compound of Formula (2) with a compound of Formula NHR¹R² to give a compound of Formula (3):



Formula (2)

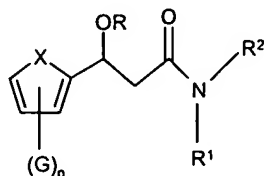


Formula (3)

wherein X, R, G and n are as defined above and R⁴ is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted heteroaryl or a combination thereof; and

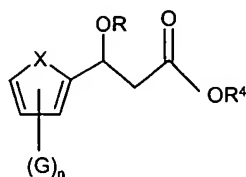
(b) reducing the compound of Formula (3) to give a compound of Formula (1).

2. (original): A process for the preparation of a compound of Formula (3):



Formula (3)

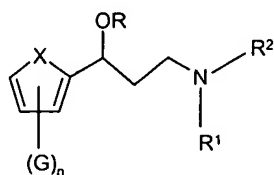
whereby a compound of Formula (2):



Formula (2)

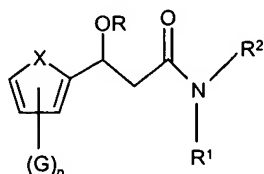
is reacted with a compound of Formula NHR^1R^2 to give a compound of Formula (3);
wherein X, G, n, R, R¹, R² and R⁴ are as defined in claim 1.

3. (original): A process for the preparation of a compound of Formula (1):



Formula (1)

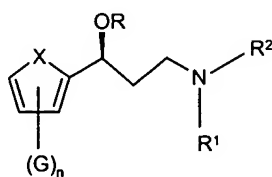
in which a compound of Formula (3):



Formula (3)

is reduced to give a compound of Formula (1): wherein X, G, n, R, R¹ and R² are as defined in claim 1.

4. (original): A process according to any one of claims 1 and 3 wherein the compounds of Formula (1) are of Formula (4):



Formula (4).

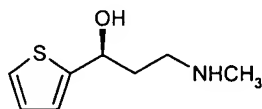
wherein X, G, n, R, R¹ and R² are as defined in claim 1.

5. (currently amended): A process according to any one of the preceding claims 1 and 3 wherein X is S.

6. (currently amended): A process according to any one of the preceding claims 1 and 3 wherein R is H or naphthyl.

7. (currently amended): A process according to any one of the preceding claims 1 and 3 wherein one of R¹ and R² is H and the other is methyl.

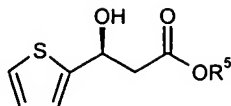
8. A process according to ~~any one of the preceding claims~~ claim 1 for the preparation of a compound of Formula (10):



Formula (10)

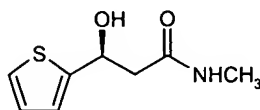
which comprises the steps:

(a) reacting a compound of Formula (9):



Formula (9)

where R⁵ is optionally substituted C₁₋₈alkyl, with methylamine to give a compound of Formula (11):

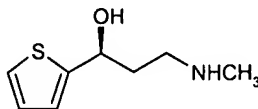


Formula (11)

and

(b) reducing the compound of Formula (11) to give the compound of Formula (10).

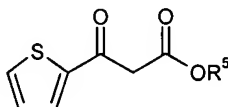
9. (currently amended): A process according to ~~any one of the preceding claims~~, claim 8 for the preparation of a compound of Formula (10):



Formula (10)

which comprises the steps:

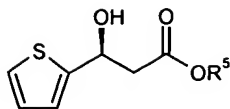
(i) acetylating 2-acetyl thiophene to give the compound of Formula (8):



Formula (8)

where R⁵ is optionally substituted C₁₋₈alkyl;

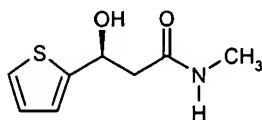
(ii) reducing the compound of Formula (8) to give the compound of Formula (9):



Formula (9)

where R⁵ is optionally substituted C₁₋₈alkyl;

(iii) reacting a compound of Formula (9) with methylamine to give a compound of Formula (11):

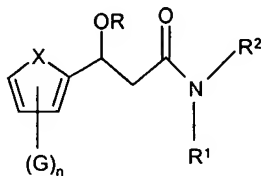


Formula (11)

and

(iv) reducing the compound of Formula (11) to give the compound of Formula (10).

10. (original): A compound of Formula (3):



Formula (3)

wherein

X is S, O or NR³, wherein R³ is H or an organic group;

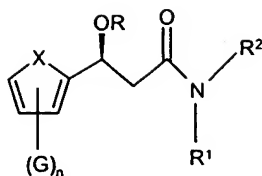
R is H or an organic group;

R¹ and R² each independently are H, optionally substituted alkyl or optionally substituted aryl;

G is a substituent; and

n is 0 to 3.

11. (original): A compound of Formula (3), according to claim 10, of Formula (12):



Formula (12)

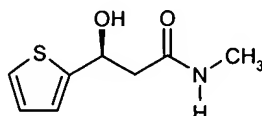
wherein X, G, n, R, R¹ and R² are as defined in claim 10.

12. (original): A compound according to claim 10 or claim 11 wherein X is S.

13. (currently amended): A compound according to ~~any one of claims 10 to 12~~
claim 10 or claim 11 wherein R is H or naphthyl.

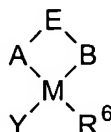
14. (currently amended): A compound according to ~~any one of claims 10 to 13~~
claim 10 or claim 11 wherein one of R¹ and R² is H and the other is methyl.

15. (currently amended): A compound according to ~~any one of claims 10 to 14~~
claim 11 of Formula (11):



Formula (11)

16. (original): A catalyst of formula:



wherein:

R⁶ represents a neutral optionally substituted hydrocarbyl, a neutral optionally substituted perhalogenated hydrocarbyl, or an optionally substituted cyclopentadienyl ligand;

A represents an optionally substituted nitrogen;

B represents an optionally substituted nitrogen, oxygen, sulphur or phosphorous;

E represents a linking group;

M represents a metal capable of catalysing transfer hydrogenation; and

Y represents an anionic group, a basic ligand or a vacant site;

provided that at least one of A or B comprises a substituted nitrogen and the substituent has at least one chiral centre; and
provided that when Y is not a vacant site that at least one of A or B carries a hydrogen atom.

17. (original): A catalyst according to Claim 16 wherein A represents NR^7 -, -NR^8 -, -NHR^7 -, $\text{-NR}^7\text{R}^8$ or $\text{-NR}^8\text{R}^9$ where R^7 is H, C(O)R^9 , SO_2R^9 , $\text{C(O)NR}^9\text{R}^{13}$, $\text{C(S)NR}^9\text{R}^{13}$, $\text{C(=NR}^{13})\text{SR}^{14}$ or $\text{C(=NR}^{13})\text{OR}^{14}$, R^8 and R^9 each independently represents an optionally substituted hydrocarbyl, perhalogenated hydrocarbyl or an optionally substituted heterocyclyl group, and R^{13} and R^{14} are each independently hydrogen or a group as defined for R^9 ; and B represents -O- , -OH , OR^{10} , -S- , -SH , SR^{10} , -NR^{10} -, -NR^{11} -, -NHR^{11} -, $\text{-NR}^{10}\text{R}^{11}$ -, $\text{-NR}^{10}\text{R}^{12}$ -, -PR^{10} - or $\text{-PR}^{10}\text{R}^{12}$ where R^{11} is H, C(O)R^{12} , SO_2R^{12} , $\text{C(O)NR}^{12}\text{R}^{15}$, $\text{C(S)NR}^{12}\text{R}^{15}$, $\text{C(=NR}^{15})\text{SR}^{16}$ or $\text{C(=NR}^{15})\text{OR}^{16}$, R^{10} and R^{12} each independently represents an optionally substituted hydrocarbyl, perhalogenated hydrocarbyl or an optionally substituted heterocyclyl group, and R^{15} and R^{16} are each independently hydrogen or a group as defined for R^{12} ; provided that at least one of A or B comprises a substituted nitrogen and the substituent, represented by R^7 , R^8 , R^9 , R^{10} , R^{11} or R^{12} , has at least one chiral center.

18. (original): A catalyst according to Claim 17 wherein A represents -NR^7 -, -NR^8 -, -NHR^7 -, $\text{-NR}^7\text{R}^8$ or $\text{-NR}^8\text{R}^9$ where R^7 is H, C(O)R^9 , SO_2R^9 , $\text{C(O)NR}^9\text{R}^{13}$, $\text{C(S)NR}^9\text{R}^{13}$, $\text{C(=NR}^{13})\text{SR}^{14}$ or $\text{C(=NR}^{13})\text{OR}^{14}$, R^8 and R^9 each independently represents an optionally substituted hydrocarbyl, perhalogenated hydrocarbyl or an optionally substituted heterocyclyl group, and R^{13} and R^{14} are each independently hydrogen or a group as defined for R^9 ; and B represents -NR^{10} -, -NR^{11} -, -NHR^{11} -, $\text{-NR}^{10}\text{R}^{11}$ -, or $\text{-NR}^{10}\text{R}^{12}$ where R^{11} is H, C(O)R^{12} , SO_2R^{12} , $\text{C(O)NR}^{12}\text{R}^{15}$, $\text{C(S)NR}^{12}\text{R}^{15}$, $\text{C(=NR}^{15})\text{SR}^{16}$ or $\text{C(=NR}^{15})\text{OR}^{16}$, R^{10} and R^{12} each independently represents an optionally substituted hydrocarbyl, perhalogenated hydrocarbyl or an optionally substituted heterocyclyl group, and R^{15} and R^{16} are each independently hydrogen or a group as

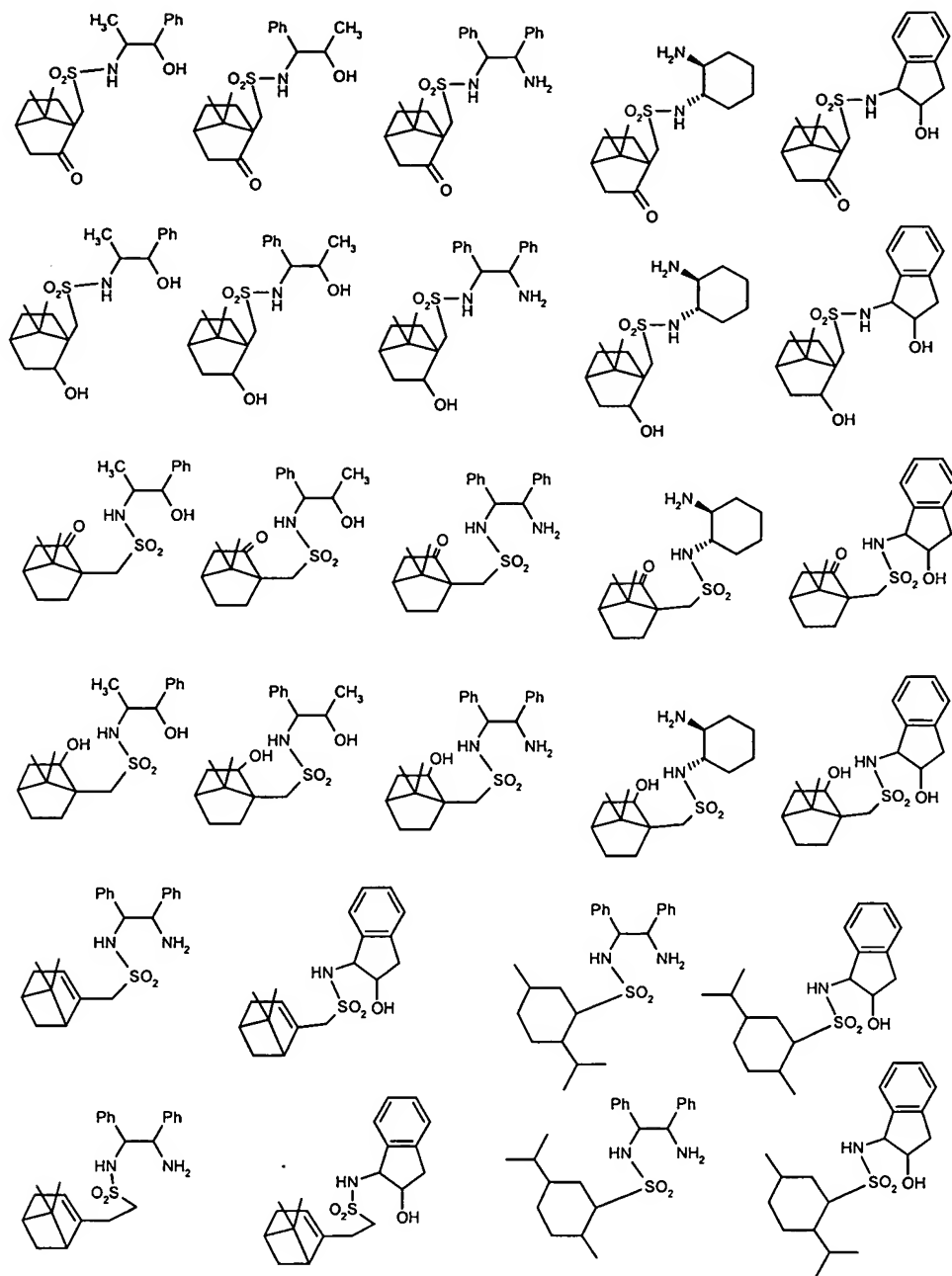
defined for R¹²; provided that at least one of A or B comprises a substituted nitrogen and the substituent, represented by R⁷, R⁸, R⁹, R¹⁰, R¹¹ or R¹², has at least one chiral center.

19. (currently amended): A catalyst according to ~~Claims 17 or 18~~ claim 18 wherein either A or B is present as a sulphonamide group represented by -NR⁷-, -NHR⁷, NR⁷R⁸, -NR¹¹-, -NHR¹¹ or NR¹⁰R¹¹ wherein R⁸ and R¹⁰ are as hereinbefore defined, and where R⁷ or R¹¹ is a sulphonyl group represented by -S(O)₂R⁹ or -S(O)₂R¹², that R⁹ and R¹² is an optionally substituted hydrocarbonyl, perhalogenated hydrocarbonyl or an optionally substituted heterocyclyl group having at least one chiral center.

20. (original): A catalyst according to Claim 19 wherein one of R⁷ or R¹¹ is (1R) 1-(7,7-dimethyl-2-oxobicyclo[2.2.1]hept-1-yl)methanesulfonyl, (1S) 1-(7,7-dimethyl-2-oxobicyclo[2.2.1]hept-1-yl)methanesulfonyl, (1R,2S) 1-(7,7-dimethyl-2-hydroxybicyclo[2.2.1]hept-1-yl)methanesulfonyl, (1R,2R) 1-(7,7-dimethyl-2-hydroxybicyclo[2.2.1]hept-1-yl)methanesulfonyl, (1S,2R) 1-(7,7-dimethyl-2-hydroxybicyclo[2.2.1]hept-1-yl)methanesulfonyl, (1S,2S) 1-(7,7-dimethyl-2-hydroxybicyclo[2.2.1]hept-1-yl)methanesulfonyl, (2S) 1-(6,6-dimethylbicyclo[3.1.1]hept-2-ene)-2-ethansulfonyl, (2R) 1-(6,6-dimethylbicyclo[3.1.1]hept-2-ene)-2-ethansulfonyl, (2S) 1-(6,6-dimethylbicyclo[3.1.1]hept-2-ene)-2-methansulfonyl, (2R) 1-(6,6-dimethylbicyclo[3.1.1]hept-2-ene)-2-methansulfonyl, (1R,2R,5R) 5-isopropyl-2-methylcyclohexansulfonyl, or (1S,2S,5R) 5-isopropyl-2-methylcyclohexansulfonyl, (1S,2S,5R) 2-isopropyl-5-methylcyclohexansulfonyl.

21. (original): A catalyst according to any one of Claims 16 to 20 wherein E is a linking group such that A and B are linked through 2, 3 or 4 atoms which are optionally substituted.

22. (original): A ligand of formula:



and diastereomers or resolved forms thereof.